Chapter 2
Theoretical foundations

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Most researchers in the field of second-language (L2) learning agree that adult learners draw on both implicit and explicit knowledge when engaging in the task of acquiring a new language; analogous to this view, most researchers likewise agree that L2 proficiency is achieved through a combination of 'implicit' and 'explicit' learning processes.[1] Explicit knowledge is knowledge that can be brought into awareness and can be verbalised, whilst implicit knowledge is knowledge that cannot be brought into awareness or articulated.[2] Put differently, explicit knowledge can be understood as potentially conscious knowledge, whilst implicit knowledge cannot reach consciousness. Correspondingly, explicit learning refers to situations 'when the learner has online awareness, formulating and testing conscious hypotheses in the course of learning'. Conversely, implicit learning 'describes when learning takes place without these processes; it is an unconscious process of induction resulting in intuitive knowledge that exceeds what can be expressed by learners'.[3] In other words, explicit learning occurs when a learner consciously and deliberately attempts to master language material or solve a language-related problem[4]; implicit learning, on the other hand, is learning without conscious awareness.[5]

It is generally assumed that child learners, i.e. learners who have not yet reached cognitive maturity, learn primarily implicitly. Research with children learning L2s in naturalistic settings (that is: in situations where they are totally immersed in the language) suggests that children learn very successfully – provided that the environment offers large amounts of high-quality language input over a prolonged period of time. Although children initially learn more slowly than adults, they are likely to eventually reach higher levels of proficiency than older learners – again, provided that intensive exposure to the L2 continues over a considerable number of years.[6]

In classroom settings, however, children do not do nearly as well. Research with young classroom learners which compared the attainment of proficiency among children of different starting ages has shown that later starters consistently outperform younger starters on measures of L2 achievement[7], although there are indications that children who start learning an L2 early tend to have more positive attitudes towards language and language learning than children who start later.[8]

Why should older children, adolescents, and adults do better than younger children when learning a language in the classroom, i.e. in an environment that offers limited exposure to the L2 for a limited period of time? The most likely explanation for this phenomenon is the more advanced cognitive development of older children and adolescents, and the full cognitive maturity of adults. Cognitive maturity facilitates L2 learning in the typical language

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[1] e.g. Dörnyei (2009), R. Ellis (2004).

[2] Anderson (2005), R. Ellis (2004), Hulstijn (2005).

[3] N. C. Ellis (1994: 38–39).

[4] Dörnyei (2009).

[5] DeKeyser (2003).

[6] For recent reviews, see Birdsong (2006), Hyltenstam & Abrahamsson (2003).

[7] Cenoz (2003), García Mayo (2003), Harley & Hart (1997), Larson-Hall (2008), Muñoz (2009).

[8] Cenoz (2003), Larson-Hall (2008).

classroom, characterised by small amounts of input such as one or two hours a week distributed over a school year, because it allows for effective explicit learning. As outlined above, explicit learning is conscious and deliberate[9]; this means that it requires attention and effort on the part of the learner, and it relies on the processing of information in the learner's working memory.[10] Working memory is a limited resource that has greater capacity in adolescents and adults than in young children. Whilst taxing in nature, explicit learning can be fast and efficient, and it thus enables a (cognitively mature) learner to benefit from L2 input, even if it is only available in small quantities and/or over a relatively short period of time. In a nutshell, explicit learning is more effective than implicit learning in the typical foreign language classroom.

Interestingly, it has recently been proposed that young children may also draw on explicit knowledge and learning[11], though to a lesser extent than adults. This proposal is compatible with the argument that children begin to display metalinguistic awareness from around age 4 onwards, with metalinguistic abilities developing most visibly from around age 6 or 7, in parallel with the onset of literacy skills that are acquired in the first years of schooling.[12] Metalinguistic awareness refers to an awareness of the nature, function, and form of language. Put differently, if we are metalinguistically aware, we can treat language as an object of inspection and reflection[13]; we can look at language, and we can talk about it. Just like explicit learning, making use of our metalinguistic abilities is cognitively demanding[14], so heightened metalinguistic awareness is typically associated with higher levels of cognitive development and greater cognitive maturity.

It follows from this line of argument that if young children's budding metalinguistic awareness and their developing capacity to learn explicitly could be enhanced, their classroom-based L2 learning could potentially be made more successful. Children who are better able to learn explicitly at an early age would be better able to benefit even from limited language input, available for one or two hours a week over the school year.

In accordance with this view, one can hypothesise that learning a language which lends itself especially well to metalinguistic inspection, to explicit reflection, and to deliberate analysis may help sharpen a learner's metalinguistic awareness and accelerate the development of explicit learning capacity. In other words, through learning an 'easy' language, the abilities that facilitate learning other, 'difficult' languages might be fostered particularly effectively. In addition, a learning experience that is not fraught with difficulty – and which places success within reach of most learners – may result in particularly positive attitudes towards languages and language learning more generally.

Esperanto is a language that meets many of the criteria that appear to be associated with low learning difficulty. Recent research has identified a number of characteristics of language items, or linguistic constructions, and of metalinguistic descriptions, or pedagogical rules used to describe language for the learner, that may help predict the relative ease or difficulty with which they can be acquired, both implicitly and explicitly.[15]

According to this research, linguistic constructions which are characterised by transparent form-meaning mappings exhibit low implicit learning difficulty. Transparency refers to language forms that are associated with only a single meaning (rather than several meanings,

[9] Dörnyei (2009).
[10] Ashby & Casale (2005), Bailey (2005), Reber (2005).
[11] Milton & Alexiou (2006).
[12] Birdsong (1989), Gombert (1992).
[13] Baker (2006), Birdsong (1989), Gombert (1992).
[14] Bialystok (2001).
[15] DeKeyser (2005), R. Ellis (2006), Roehr & Gánem-Gutiérrez (2009).

as the not very transparent morpheme -*s* in English, which can signal plural, possession, or the third-person present tense), and also to meanings that are associated with only a single form (rather than several forms, as the English meaning 'past time' that can be signalled by means of various adverbs such as *yesterday* or by the morpheme -*ed* attached to regular verbs). By the same token, linguistic constructions which are perceptually salient – i.e. easy to perceive in auditory input – and communicatively meaningful – i.e. necessary for the successful comprehension of a message – should likewise be low in implicit learning difficulty. (The English language includes linguistic constructions that do not satisfy these criteria; e.g. the morpheme -*s* is difficult to perceive in the speech stream, and the morpheme -*ed* is communicatively redundant if used together with an adverb such as *yesterday*.) The linguistic constructions that constitute Esperanto seem to satisfy criteria such as transparency, salience, and communicative necessity to a greater extent than most languages, given that Esperanto has highly regular morphology and syntax.

Metalinguistic descriptions – i.e. pedagogical rules that are used in the classroom or in textbooks to describe language for the learner to facilitate explicit learning activities – can likewise be considered in terms of learning difficulty, based on a different set of criteria[16]. For instance, metalinguistic descriptions that are low in conceptual complexity and have high truth value should result in low explicit learning difficulty. Conceptual complexity refers to how 'heavy' a metalinguistic description is in terms of its processing demands; 'English nouns form the plural by adding an -*s*' is not conceptually complex, but 'If the verb in the sentence is positive, a negative question tag is required, consisting of the operator and the subject pronoun that echo the subject and operator in the sentence' is conceptually complex. Truth value refers to the number of exceptions to the pedagogical rule. Both of the metalinguistic descriptions given in the previous sentence are relatively high in truth value because there are few exceptions. Metalinguistic descriptions that satisfy the criteria of low conceptual complexity and high truth value should be more readily available for Esperanto than for most other languages, because Esperanto is not only morphosyntactically regular, but also characterised by direct phoneme–grapheme correspondence.

Last but not least, the lexical similarity of Esperanto to the main European languages invites metalinguistic inspection and reflection with regard to lexical semantics, i.e. word meaning. Learners with a European first language – including learners whose first language is English, of course – can draw explicit comparisons, identify similarities and differences between words or morphemes, and can thus potentially enhance their ability to recognise common patterns, to comprehend and to memorise vocabulary.

The empirical work described in subsequent chapters of this volume has begun to investigate the hypothesis that learning Esperanto prior to learning other languages may foster metalinguistic awareness in children, and may thus contribute to the development of the capacity for explicit learning. The research described in the following chapters has also sought an answer to the question of whether learning Esperanto may be associated with more positive attitudes to language and language learning in schoolchildren.

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[16] R. Ellis (2006), Roehr & Gánem-Gutiérrez (2009).